What is claimed is:

1. An intraluminal ~~stent co~~mprising a generally tubular member having a plurality of first and second structural elements forming circumferential walls thereof, each of the plurality of first structural elements further having a generally sinusoidal curve thereto defining peaks and valleys of each of the plurality of first structural elements, each of the plurality of first structural elements extending along at least a portion of a longitudinal axis of the generally tubular member, each of the plurality of first structural elements being in spaced-apart in phase relationship with respect to an adjacent one of the plurality of structural elements about a circumferential aspect of the tubular member and the plurality of second structural elements further comprising interconnecting members interconnecting adjacent pairs of first structural elements and extending between a peak of a first one of the plurality of first structural elements and a trough of a second one of the plurality of first structural elements.

2. The endoluminal stent according to Claim 1, wherein each of the plurality of first structural elements further comprises a generally zig-zag configuration of the sinusoidal curve along the longitudinal axis ~~of the~~ tubular member.

3. The endoluminal stent according to Claim 2, wherein each of the plurality of first structural elements further comprises a semicircular section positioned at apices in the generally zig-zag configuration of the sinusoidal curve of each of the plurality of first structural elements.

4. The endoluminal stent according to Claim 1, wherein each of the plurality of first structural elements are integral and monolithic with each of the plurality of second structural elements.

5. The endoluminal stent according to Claim 1, wherein the plurality of first structural elements are discrete from and conjoined to the plurality of second structural elements.

6. The endoluminal stent according to Claim 1, wherein the first and second structural elements are made of the same material.

7. The endoluminal stent according to Claim 1, wherein the first and second structural elements are made of different biocompatible materials.

8. The endoluminal stent according to Claim 7, wherein the plurality of first structural elements have material properties different and distinct from the plurality of second structural elements.

9. The endoluminal stent according to Claim 1, wherein the first and second structural elements further comprise luminal surfaces thereof having controlled heterogeneities thereupon.

10. The endoluminal stent according to Claim 1, wherein the first and second structural elements are made of materials selected from the group consisting of elemental titanium, vanadium, aluminum, nickel, tantalum, zirconium, chromium, silver, gold, silicon, magnesium, niobium, scandium, ~~platinum~~, cobalt, palladium, manganese, molybdenum and alloys thereof, and nitinol and stainless steel.

11. The endoluminal stent according to Claim 9, wherein the controlled heterogeneities are selected from the group consisting of grain size, grain phase, grain material composition, stent material composition and surface topography.

12. The endoluminal stent according to Claim 9, wherein the controlled heterogeneities define polar and non-polar binding sites for binding blood plasma proteins.

13. The endoluminal stent according to Claim 9, wherein the controlled heterogeneity is selected from the group consisting of material grain size, material grain phase and material grain composition.

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14. A method of manufacturing an endoluminal stent capable of radially expanding from a first diameter to a second diameter and having a plurality of first structural elements defining a longitudinal axis of the stent and a plurality of second structural elements interconnecting adjacent pairs of first structural elements and defining a circumferential axis of the stent, comprising the steps of:

a. providing a substrate having an exterior surface capable of accommodating metal deposition thereupon;

b. depositing a stent-forming metal onto the substrate by a vacuum deposition method;

c. removing the substrate from the endoluminal stent formed thereupon.

15. The method according to Claim 14, wherein step (a) further comprises the step of imparting a pattern onto the exterior surface of the substrate.

16. The method according to Claim 15, wherein step (b) further comprises the step of depositing the stent-forming metal onto the pattern onto the substrate.

17. The method according to Claim 13, further comprises the step of depositing a sacrificial layer of a material on to the substrate prior to step (b).

18. The method according to Claim 13, wherein step (b) is conducted by ion beam-assisted evaporative deposition.

19. The method according to Claim 13, wherein step (b) is conducted by sputtering.

20. The method according to Claim 19, wherein the ion beam-assisted evaporative deposition is conducted in the presence of an inert gas.

21. The method according to Claim 13, wherein the substrate is a cylindrical substrate.

22. The method according to Claim 13, wherein the substrate is a planar substrate.

23. The method according to Claim 20, wherein the inert gas is selected from the group consisting of argon, xenon, nitrogen and neon.

24. An intraluminal stent comprising a generally tubular member having a plurality of first and second structural elements forming circumferential walls thereof, each of the plurality of first structural elements being oriented parallel to and extending substantially along an entire longitudinal axis of the intraluminal stent, and the plurality of second structural elements further comprising interconnecting members interconnecting adjacent pairs of first structural elements each of the plurality of second structural elements having a generally sinusoidal shape.

25. The intraluminal stent according to Claim 24, wherein the plurality of second structural elements each further comprise generally U-shaped members and the plurality of second structural elements are in a regular in-line array about the circumference of the stent.

26. The intraluminal stent according to Claim 25, wherein the generally U-shaped members further comprise a linear element at the apex of the U-shaped member that is parallel to the circumferential axis of the stent.

27. The intraluminal stent according to Claim 24, wherein the plurality of second structural elements each further comprise generally S-shaped members and the plurality of second structural elements form a regular in-line array about the circumference of the stent.

28. A self-supporting intraluminal graft, comprising a tubular metal wall member having a plurality of first structural elements oriented parallel relative to a longitudinal axis of the tubular metal wall member and a plurality of second structural elements oriented circumferentially about a circumference of the tubular metal wall member and a plurality of openings passing through the tubular metal wall member.

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